



**METRO EAST SANITARY DISTRICT**

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October 15, 2009

Mr. William R. Blanton Jr., Chief  
Engineering Management Branch  
Mitigation Directorate  
Federal Emergency Management Agency  
500 C Street, SW  
Washington, D.C. 20472

Dear Mr. Blanton:

As you know, part of the Flood Map Modernization (MapMod) program being implemented by the Federal Emergency Management Agency (FEMA) involved the evaluation of existing levee systems. Specifically, the capability of existing levees which had been previously accepted as being able to provide protection to the 1-percent annual chance flood event, known as the base flood or 100-year event, was deemed to be critical to the MapMod process. The levee system which protects our community is one such levee system. Our levee system is located in the Metro-East area of Illinois and consists of two interconnected levees; the Metro-East Sanitary District (MESD) and Chain of Rocks levees. Because many of the existing levees shown on the effective Flood Insurance Rate Maps have allegedly not been assessed since the original production of these maps in the 1970's and 80's, FEMA determined that it was necessary to gain an accurate understanding of the current flood risks posed by the levees before proceeding with the MapMod process. We understand this decision by FEMA culminated in a guidance document, most recently issued March 16, 2007, entitled "Revised Procedure Memorandum No. 43- Guidelines for Identifying Provisionally Accredited Levees" (PM43). Many communities in the Metro-East area of Illinois have been working in a collaborated effort to review this FEMA publication as well as available technical documents related to the apparent impending de-accreditation of levees which protect their communities. This correspondence is the culmination of our efforts.

Based on PM 43, levee owners or communities have the responsibility to submit documentation indicating that a levee meets the requirements of Title 44 of the Code of Federal Regulations, Section 65.10 of the National Flood Insurance Program regulations (44 CFR 65.10). In a letter dated October 5, 2007, FEMA disseminated information indicating that the MESD and Chain of Rocks levee system did not meet the requirements of 44 CFR 65.10. This letter stated that the decision was predicated upon a determination by the U.S. Army Corps of Engineers (USACE). However, no basis for the USACE decision was detailed in the October 5, 2007 letter. Furthermore, applying the provisions of PM43, the USACE through the data collected via the national levee inventory and assessment program, should have stipulated a specific levee scenario category in the October 5, 2007 letter so that pertinent requirements to enable the

district to meet the regulations in 44 CFR 65.10 were clearly known to all parties. Moreover, as required by PM43, if there were deficiencies causing the USACE to determine the levee did not meet 44 CFR 65.10, these deficiencies should have been identified and listed in the October 5, 2007 letter. No such information was provided. Because a levee scenario was not assigned at that time and has not to date been assigned to the MESD and Chain of Rocks levee as stipulated in PM 43, the ongoing discussions with FEMA and the USACE over the last two years have been ambiguous.

Our review of the documentation that has been provided to us to date regarding this issue indicates that FEMA and/or the USACE have indirectly categorized the MESD and Chain of Rocks levee system as a Scenario C1 levee per PM43. However, as indicated above, there is no written documentation in our file that indicates such a decision was properly provided to our community or to the applicable levee district. We believe that the MESD and Chain of Rocks levee system qualifies for the Scenario B category and thus is eligible for a Provisionally Accredited Levee (PAL) designation. We support this position based on the discussions provided below. The first portion of the discussion proves that the MESD and Chain of Rocks levee system should not be designated as a Scenario C1 levee, which appears to be the tacit position of FEMA and the USACE. The second portion of the discussion supports the conclusion that the MESD and Chain of Rocks levee system must be categorized as a Scenario B levee and eligible for PAL status.

The evidence which supports that the MESD and Chain of Rocks levee system cannot be designated as a Scenario C1 levee is presented in the following table.

SCENARIO C1 COMPARISON OF CRITERIA AND DOCUMENTATION MESD AND CHAIN OF ROCKS LEVEE SYSTEM	
Requisite Criteria for Scenario C1 per PM43	Evidence Scenario C1 Criteria NOT Met
The USACE has determined that the levee's recent inspection ratings are listed as fair, poor or unacceptable	<ul style="list-style-type: none"> <li>1995, 1996 and 1997 USACE Annual Maintenance Inspection Reports indicate the overall levee system rating as "acceptable" or "minimum acceptable"</li> <li>1998 Periodic Inspection Report No. 6 by the USACE</li> </ul> <p><i>Page 3: The 1993 flood of record was the major test of the systems capability. The system performed satisfactorily</i></p> <p><i>Page 20: "The features of the MESD Flood Protection Project ...appear to be stable and functional".</i></p> <p><i>Page 24: The levee system is "currently stable and operational although there are deficiencies that require correction"</i></p> <ul style="list-style-type: none"> <li>1999 and 2001 USACE Annual Maintenance Inspection Reports indicate the overall levee system rating as "acceptable" or "minimum acceptable"</li> <li>2002 Periodic Inspection Report No. 7</li> </ul>

	<p>by the USACE</p> <p>Page 28: "The project appears to be capable of withstanding floods of those magnitudes...", referring to the flood of 1993 (300-year flood event)</p> <p>Page 31: "currently stable and operational"; "The primary issue is the ability to make closure at various railroad closure structures"</p> <ul style="list-style-type: none"> <li>2007 Periodic Inspection Report No. 8 by the USACE</li> </ul> <p>Page 3: "The 1993 flood of record (300-year event) was the major test of the system's capability. The system performed satisfactorily..."</p> <ul style="list-style-type: none"> <li>2007 and 2008 USACE Annual Maintenance Inspection Reports indicate the overall levee system rating as "minimum acceptable"</li> </ul>
The USACE has determined the project status in the RIP has been switched from active to inactive	No written documentation provided indicating such
The USACE has not provided a 1-year maintenance deficiency correction period for the levee	No written documentation provided indicating such

The most compelling evidence as presented in the above table that the MESD and Chain of Rocks levee system cannot be categorized as a Scenario C1 levee is the fact that the USACE, the entity which alleged informed FEMA that the levee could not meet the requisite accreditation standards, has in ten (10) recent inspection reports never documented an overall inspection rating for the levee system of fair, poor or unacceptable. However, to the contrary, in the 1998, 2002 and 2007 (Draft) USACE Periodic Inspection Reports, the levee was reported to be "currently stable and operational" and able to withstand a flood event with a 300-year return interval. Therefore, there is no basis for categorizing the MESD and Chain of Rocks levee system as Scenario C1 per PM43.

It is acknowledged that per PM43 the MESD and Chain of Rocks levee system is considered to be in the USACE levee program. In accordance with the criteria listed in PM 43, a summary of the required documentation to verify that the levee system meets the criteria of a Scenario B levee is provided in the following table. Categorizing a levee in Scenario B, per PM 43, allows for a PAL designation to be assigned.

SCENARIO B COMPARISON OF CRITERIA AND DOCUMENTATION MESD AND CHAIN OF ROCKS LEVEE SYSTEM	
Requisite Criteria for Scenario B per PM43	Evidence Scenario B Criteria IS Met
The effective FIRM shows the levee as providing protection from the base flood (100-year flood event)	The applicable panels of the effective FIRMs show the area landward of the levee as being out of the floodplain
No available information indicates the levee does not provide base flood protection	See discussion immediately following this table



The project inspection rating is within an acceptable range (as defined by the USACE)	See documentation presented in table above detailing USACE recent inspection reports
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In a letter dated March 28, 2004 from the USACE to the Village of Sauget, it was stated that the Metro-East system of levees were designed to provide protection from a 500-year flood event and that the 2004 Upper Mississippi River Flow Frequency Study completed by the USACE affirmed this level of protection for the Metro-East system. Therefore, the existing configuration of the MESD and Chain of Rocks levee system provides more than sufficient freeboard to meet the requirements of 44 CFR 65.10.

In the past several years, there has been an enormous amount of posturing by the USACE regarding underseepage concerns related to the MESD and Chain of Rocks levee system, including allegations that the levee system would not be capable of adequately providing protection from future flood events. The inference from all this discussion by the USACE is that the occurrence of underseepage is the only justification needed to establish that the MESD and Chain of Rocks levee system is not capable of providing protection for the area landward of the levee for the 100-year flood event (base flood) as required in 44 CFR 65.10. The USACE 2007 Periodic Inspection No. 8 states that the 1993 flood event was a 300-year flood. The Upper Mississippi River System Flow Frequency Study (FFS) prepared by the USACE in 2004 corroborates this statement. Therefore, the MESD and Chain of Rocks levee system withstood a flood event much greater than that required to meet 44 CFR 65.10 requirements. Since the 1993 flood event, there have been 16 independent flood events producing river stages above 30 on the St. Louis gage (defined as flood stage). The following table provides a summary of these events. For each of these events, the levee system has provided adequate protection with only minor occurrences of underseepage.

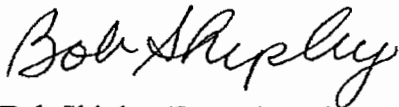
<b>INDEPENDENT FLOOD PEAKS PRODUCING MISSISSIPPI RIVER STAGES GREATER THAN 30 AT THE ST. LOUIS GAGE</b>			
<b>Year</b>	<b>Date of Peak Stage</b>	<b>Peak Stage (gage height)</b>	<b>Duration above flood stage (days)</b>
<i>1993*</i>	<i>August 1</i>	<i>49.58</i>	<i>80</i>
1994	April 15	36.61	9
1995	May 22	41.81	40
1996	June 3	35.24	26
1997	March 2	32.29	11
1998	April 18	33.21	17
1999	May 8	32.49	13
2001	May 21	30.62	3
2002	May 17	37.34	14
2007	March 21	30.79	3
2008	April 13	31.53	4
2008	April 28	30.95	5
2008	May 14	30.74	7
2008	July 1	38.67	33
2008	August 2	30.73	2
2008	September 18	36.72	7
2009	May 21	33.15	11
<i>* Flood of Record is approximately a 300-year event</i>			

A generalized conclusion inferring the inability of a levee system to provide protection for the base flood as compared to the current flood of record in this specific case (300-year event in 1993) does not correlate well with the fact that the MESD and Chain of Rocks levee system has provided protection from major floods since the 1993 flood event. Furthermore, while flood stage is a relevant factor in causing and also predicting underseepage, the duration of a flood stage is equally important. As can be seen by the duration of flood events summarized in the above provided table, the operating record of the MESD and Chain of Rocks levee system to adequately function during extended flood stages since the 1993 flood is satisfactory. Therefore, we contend that the MESD and Chain of Rocks levee system is capable of providing protection from the base flood and any conclusion to the contrary based on underseepage is subjective and flawed.

A review of the pertinent documentation related to the MESD and Chain of Rocks levee system indicates that the levee system has relatively common maintenance deficiencies. However, we assert that the levee system is capable of providing protection from the base flood and meets the requirements of 44 CFR 65.10. Therefore, as provided in PM 43, FEMA should assign the MESD and Chain of Rocks levee system to the Scenario B levee category. This assignment provides eligibility through the PAL system. In an effort to assist the MESD Levee District with the process, please transmit a PAL application package to the Metro-East Sanitary District, c/o Mr. Andrew F. Economy, President Board of Commissioners, 1800 Edison Avenue, P.O. Box 1366, Granite City, Illinois 62040.

Because documentation has been provided herein which demonstrates that the MESD levee system is eligible for PAL status, the preliminary DFIRMS depicting the area landward of the levee should be designated as a shaded X Zone and not an AR Zone as shown on the preliminary DFIRM. Therefore, Metro-East Sanitary District hereby formally appeals the technical accuracy of the preliminary DFIRMS for Madison and St. Clair County based on the information presented in this correspondence.

Respectfully submitted, ✓



Bob Shipley, Executive Director  
Metro-East Sanitary District

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